State of California

Memorandum

To: Light Brown Apple Moth Environmental Advisory Task Force

Date: December 27, 2007

Place: Sacramento

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Subject: **Response to LBAM Task Force Issues and Concerns**

There were several issues raised at our first meeting that I would like to address more thoroughly in writing. The second was:

1) The blinding of our traps in the area treated with the pheromone.

We use the LBAM female pheromone in our traps to detect LBAM males. The moths orient to the pheromone plume emitted by the trap just like they do to the pheromone plume emitted by a female LBAM wanting to mate. The male moths fly into the trap looking for a female and get caught in the sticky glue in the trap. We also use the traps to monitor moth numbers in an area to help us delimit (define) the size and density of the infestation.

Saturating an area with LBAM pheromone does indeed “blind” the traps by making it difficult to impossible for the LBAM males to find and follow individual pheromone plumes. We cannot use our traps to detect or delimit LBAM infestations in areas that have been treated for mating disruption.

The traps are still able to monitor the success of the mating disruption treatments **by not catching male LBAM**. The goal of the mating disruption treatment is to stop male LBAM from finding female LBAM. Because the male LBAM use the same behavior to find the trap or the female, disrupting the ability to find the female moth disrupts their ability to find the trap. Thus, a drop in trap catch from just before the mating disruption treatments to after they have been applied is considered a positive indication that the treatment has disrupted the mating of the LBAM. Increasing trap catch to pre-treatment levels is an indication that the effects of the pheromone treatment are wearing off and that another treatment is needed.

Each trap used in 2007 contains more pheromone (3 milligrams) than is found in a female LBAM (nanogram amounts). Thus each trap produces a pheromone plume 1,000 to 10,000 times greater than a female LBAM. Thus a reduction in trap catch, especially with the 3 milligram lures, is harder to achieve than a reduction in mating by

the LBAM moths. This means that that we cannot simply assume that a 50% reduction in male LBAM catch after treatment equals a 50% reduction in mating by female moths.